

TRANSLATION FROM JAPANESE

(19) JAPANESE PATENT OFFICE (JP)

(12) Patent Gazette (B2)

(11) Patent No. **2719556 (P2719556)**

(24) Registration Date: 1997.11.21

(45) Publication Date: 1998.2.25

Identification		JPO	
(51) <u>Int. Cl.</u> ⁶	<u>Symbol</u>	<u>File No.</u>	<u>FI</u>
A46B	13/02	A46B	13/02
A61C	17/00		700
	17/22	A61C	17/00 L

Number of Claims: 3

(4 pages total [in original])

(21) Patent Application No.: 5-188251

(22) Filing Date: 1993.7.29

(65) Unexamined Patent Application (Kokai) No.: 7-116020

(43) Disclosure Date: 1995.5.9

(73) Assignee: SEIKO PRECISION CO. LTD.

(72) Inventor: AMAKASU MIKIO

(56) Cited References: Kokai 6-121701 (JP, A)

(54) [Title of the Invention] **Electrically powered toothbrush**

(57) [Claims]

[Claim 1] An electrically powered toothbrush comprising:

a drive motor housed within a case;

a drive shaft supported within said case and displaceable in the axial direction;
a first motion conversion mechanism for converting rotation of said drive motor into reciprocating motion and transmitting same to said drive shaft;
an attachment coupled with said drive shaft;
a rotating brush head rotatably attached to the distal end of said attachment;
an extension bar housed within said attachment, and that when said attachment is coupled with said drive shaft, couples with a fixed shaft fixed located within said case, so as to be capable of relative motion with respect to said attachment,
a rack provided to said extension bar;
and a pinion for meshing with said rack, provided on the rotating shaft of said brush head; and

restricting means provided on the back side of said rack, for preventing said rack from shifting to the opposite side from said pinion.

[Claim 2] The electrically powered toothbrush according to claim 1 wherein said restricting means is a rolling bearing.

[Claim 3] The electrically powered toothbrush according to claim 2 wherein ribs for engaging the extension bar are provided at the front and back ends of said rolling bearing.